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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/642,481

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EXAMINER

BIAGINI, CHRISTOPHER D

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/642,481	Applicant(s) ENOMOTO ET AL.	
	Examiner Christopher Biagini	Art Unit 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-9, 11-15, 18-24, 26-30, 33-39 and 41-45 is/are pending in the application.
- 4a) Of the above claim(s) 6, 15, 21, 30, 36 and 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5, 7-9, 11-14, 18-20, 22-24, 26-29, and 31-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is in response to the amendment filed October 14, 2009. Claims 3-9, 11-15, 18-24, 26-30, 33-39, and 41-45 are pending. Claims 6, 15, 21, 30, 36, and 45 were previously withdrawn. Claims 3, 5-7, 13, 18, 21, 33, 36, and 43 are amended.

Response to Arguments

Applicant's arguments regarding the rejections under 35 USC 103(a) have been fully considered but are moot in view of the new ground(s) of rejection.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "destination tag information being included in a learning frame that said network transmits to *a path opposite to another path in which a main signal frame flows*" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification lacks antecedent basis for a main signal frame, transmitted "opposite to" a learning frame, having a source address that also made a learning frame transmission request, as recited in claims 3, 8, and 18.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3-5, 7-9, 11-14, 18-20, 22-24, 26-29, 33-35, 37-39, and 41-44 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

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reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 3, 18, and 33 all recite the limitation “a source MAC address which has made a learning frame transmission request, said main signal frame having said source address and said destination MAC address.” The specification provides no clear support for a main signal frame, transmitted “opposite to” a learning frame, having a source address that also made a learning frame transmission request.

Any claim not directly addressed above is rejected for at least incorporating the deficiencies of a parent claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5, 7-9, 11-14, 18-20, 22-24, 26-29, 33-35, 37-39, and 41-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 3, 18, and 33 all recite the limitation “said destination tag information being included in a learning frame that said network transmits to a path opposite to another path in which a main signal frame flows.” This limitation is so irresolvably unclear as to make it impossible to determine the metes and bounds of the claim. For example, it is not clear what the term “opposite” means in connection with paths of a network. It should be noted, as well, that the specification provides little guidance, as the term “opposite” only appears in sections that are near-verbatim duplicates of the claims.

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Independent claims 3, 18, and 33 further recite the limitation "said main signal frame having said source MAC address." However, the claims introduce multiple source MAC addresses; it is unclear to which source MAC address this limitation is intended to refer.

Any claim not directly addressed above is rejected for at least incorporating the deficiencies of a parent claim.

In the interest of expediting prosecution, the Examiner will endeavor to apply art to the claims as they would be best understood by a person of ordinary skill in the art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 7-9, 12, 13, 18-20, 22-24, 27, 28, 33-35, 37-39, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI/IEEE Std. 802.1D, 1998 Edition (hereinafter "the 802.1D specification") in view of Viswanath (US Patent No. 6,151,322).

Regarding claim 3, the 802.1D specification shows a network system for a network having plural nodes connected (see Fig. 7.1), wherein a node (comprising a bridge) belonging to said network comprises:

- a CPU (Central Processing Unit, implicitly disclosed as part of the computer-implemented system of the 802.1D specification) executing a learning frame

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management unit (comprising a forwarding process, which is implemented by a processing unit) which refers to a MAC SA table cache (comprising querying a filtering database) to determine whether a learning frame transmission request of a MAC SA has been is made (comprising determining whether a frame has been received that indicates an address-port mapping: see section 7.9.5 on p. 47 and section 7.8 on p. 42); and

- a memory system (implicitly disclosed as part of the computer-implemented system of the 802.1D specification) that stores:
 - a MAC forwarding table memory (comprising a filtering database) which stores an output port for a destination MAC address (see section 7.9 on p. 42 and section 7.9.2 on p. 44), and
 - the MAC SA table cache which stores a source MAC address which has made a learning frame transmission request (note that entries made by the learning process are based on the source address of frames: see section 7.8 on p. 42).

The 802.1D specification further shows a main signal frame having said source address and said destination address (note that main signal frames—that is, frames which are received after a learning frame has “taught” the bridge a MAC-port correlation—necessarily share sources and destinations with learning frames: see section 7.9 on pp. 42-43.)

The 802.1D specification does not explicitly show:

- that the MAC forwarding table stores destination tag information corresponding to a virtual local area network (VLAN) tagged Ethernet frame, said destination tag information being included in a learning frame that said network transmits to a path opposite to another path in which a main signal frame flows.

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Viswanath shows a MAC forwarding table storing destination tag information corresponding to a virtual local area network (VLAN) tagged Ethernet frame (see col. 6, line 56 to col. 7, line 9), said destination tag information being included in a learning frame that said network transmits to a path opposite to another path in which a main signal frame flows (see col. 6, lines 16-20 and col. 7, lines 10-41).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the 802.1D specification with the teachings of Viswanath in order to "provide maximum use of memory and bandwidth resources." See Viswanath, col. 8, lines 47-49.

Regarding claim 4, the combination further shows wherein said nodes comprise an aging request acceptance unit which ages said MAC SA table cache (see first paragraph on p. 45), and a transmission request unit which makes a learning frame transmission request to a CPU (comprising a bridge port which receives a frame and sends it to a learning process, which is implicitly executed by a CPU: see Fig. 7-5 and section 7.8 on p. 42). Note that the learning process uses the learning frame transmission request to manage a table (comprising the filtering database).

Regarding claim 5, the combination further shows wherein said nodes have a learning management computer-readable medium encoded with a computer program installed thereon which conducts a learning frame process (see the 802.1D specification, section 7.8 on p. 42).

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Regarding claim 7, the combination further shows wherein said node has an equipment control computer-readable medium encoded with a program which conducts a variety of configurations (comprising the configuration of reserved addresses, static filtering information, and traffic class information: see the 802.1D specification, section 7.1.2).

Regarding claim 8, the combination further shows said node comprises a frame type judgment unit which judges an input frame (comprising a forwarding process, which judges whether to forward incoming frames, and where to forward them to: see the 802.1D specification, section 7.7.2).

Regarding claim 9, the combination further shows wherein a node belonging to said network comprises: an aging control unit which ages an entry to be aged (comprising the unit which ages entries in the filtering database: see the 802.1D specification, first paragraph of p. 45), and an aging management table which stores an entry to be aged (comprising the filtering database, which stores the dynamic filtering entries which are aged).

Regarding claim 12, the combination further shows wherein said node comprises a tag forwarding table memory which stores an output port for a forwarding tag (see Viswanath, col. 6, line 56 to col. 7, line 9).

Regarding claim 13, the combination further shows wherein said node comprises: a table (filtering database: see the 802.1D specification, section 7.9); an aging circuit (comprising the

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circuit which ages entries in the filtering database: see p. 45); and a forwarding table having a table read/write circuit (comprising a filtering database, which necessarily has a read/write circuit because it can be read from and written to: see p. 33).

Claims 18-20, 22-24, 27, and 28 are apparatus claims corresponding to system claims 3-5, 7-9, 12, and 13 and are rejected for the same reasons as applied above.

Claims 33-35, 37-39, 42, and 43 are method claims corresponding to system claims 3-5, 7-9, 12, and 13 and are rejected for the same reasons as applied above.

Claims 11, 14, 26, 29, 41, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over ANSI/IEEE Std. 802.1D, 1998 Edition ("the 802.1D specification") in view of Viswanath (US Patent No. 6,151,322), and further in view of Liu (US Pub. No. 2002/0191628).

Regarding claim 11, the combination does not explicitly show wherein said node comprises a broadcast table memory which stores an output destination port at a time of broadcasting to a tag.

Liu shows a broadcast table memory which stores an output destination port at a time of broadcasting to a tag (see [0023]-[0024]).

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It would have been obvious to one of ordinary skill in the art to further modify the 802.1D specification to store an output destination port at a time of broadcasting to a tag in order to prevent the system from having to calculate the port repeatedly (see Liu, [0024]).

Regarding claim 14, the combination does not explicitly show wherein said node comprises a TAG address management table which stores an address of a forwarding tag on a MAC forwarding table memory.

Liu shows a tag address management table which stores an address of a forwarding tag (see [0022]).

It would have been obvious to one of ordinary skill in the art to further modify the 802.1D specification to store an address of a forwarding tag as taught by Liu in order to provide for efficient distribution of broadcast messages to that tag (see Liu, [0007]).

Claims 26 and 29 are apparatus claims corresponding to system claims 11 and 14, and are rejected for the same reasons as applied above.

Claims 41 and 44 are method claims corresponding to system claims 11 and 14, and are rejected for the same reasons as applied above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER D. BIAGINI whose telephone number is (571)272-9743. The examiner can normally be reached on weekdays from 8:30 AM to 5:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Biagini
(571) 272-9743

/Shawki S Ismail/

Primary Examiner, Art Unit 2455